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RECENT TRENDS IN LAKE STATES TIMBER RESOURCES AND INDUSTRIES

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In recent months we have heard a lot about the probable length of the present emergency - how long it may last and the effects it may have on our economy. Those in responsible positions talk in terms of 20 to 30 years or more and emphasize the need to plan accordingly. If their prediction holds true, even in part, then more than ever before we in the Lake States, as in other sections and other countries, must be concerned about our timber resource and the ability of our forest industries to contribute their share of the national timber requirements. During the last war we admittedly overcut, and in some cases destructively so, to meet urgent needs. Justified as that course was, we must avoid it this time if our country is to endure, remain productive, and grow.

Even if world peace were to come tomorrow, there are impelling reasons to be concerned about our timber supply. For nearly 20 years our population has increased almost 1 percent per year. In the last 10 years alone, we have added 20 million people, and in the next 40 years it is likely that we will add 30 to 40 million more, thus greatly enlarging the number of consumers of forest products. Add up our military requirements, the housing needs of our growing population, our expanding industrial capacity, and our hopes for raising the standard of living at home and abroad, and it at once becomes evident that the forest industries will have a ready market for all they can produce.

1/ Presented at the Lake States Logging Congress, Marquette, Michigan, September 28, 1951.

2/ Maintained by the U. S. Department of Agriculture, Forest Service, in cooperation with the University of Minnesota, St. Paul, Minnesota.

In the current year, with a 60 billion dollar military budget, our industrial machine has already reached a national production about equal to the peak rate of World War II. Forest products requirements in the period ahead, although not too specific, may equal or exceed those of World War II. From 1941 through 1945, nearly 200 billion board feet of lumber were consumed, two-fifths of it by war agencies. In 1942, for example, military consumption totaled more than 20 billion feet, or about one-half of our total national consumption. Whether such huge quantities of lumber will be required this time is academic; we can rest assured that lumber, pulpwood, and other forest products will have a large and significant place in the preparedness program.

Here in the Lake States we have more than 50 million acres of forest land, about 6,000 timber-processing plants, and over 130,000 people employed in harvesting and processing forest products. Yet it may surprise you, as it did me, to find that the Lake States lumber industry supplies only one-half of the lumber used in the region, that about 25 percent of the pulpwood and one-sixth of the veneer logs received at Lake States mills come from outside the region. I feel reasonably sure, and you will undoubtedly agree, that such imports are not because of the inability of the loggers to get out the timber, but rather, to a large degree, because we lack the timber to meet our regional needs.

In the light of such a situation, it may be helpful to take a few minutes to review what is happening to industrial production and to our timber supply.

Timber Industry Trends

Industrial production of forest products is most encouraging. For the past decade the output of lumber in the Lake States has averaged about 1 billion board feet, dropping to a postwar low of 8 and $\frac{3}{4}$ million feet in 1949, and rising about 23 percent in 1950. Labor and equipment shortages have not materialized on a large scale and indications are that 1951 lumber production may reach a postwar high of some 1.3 billion feet. It is doubtful, though, if lumber production in the Lake States will go much higher in the next two decades. In support of this generalization, I point out that practically all of our old-growth timber has been cut and that more and more of our sawlogs are from small second-growth timber. However, sawmill capacity is, and has been for many years, in excess of production. If an acute lumber shortage arises, it would be possible to step up production, although this would only lead to additional timber supply problems at a later date.

Pulp mills have become an increasingly important segment of our forest industry. Currently some 25 percent of the timber being cut in the Lake States is going into pulpwood. Our fifty mills using pulpwood require each year about $2\frac{1}{2}$ million cords. Pulpwood production, like sawlogs, showed a marked increase in 1950 and can go much higher if labor and equipment are available. There is plenty of hardwood timber of pulpwood size and quality. Of special significance is the rapid increase in the use of aspen. This species now outranks all others in the Lake States in the volume cut for pulp. In four years, there has been a threefold increase in other hardwoods used for pulp. From a timber supply standpoint, both of these trends are highly desirable and should be encouraged.

Looking to the future, expansion of pulp-mill capacity, new pulping processes which indicate possibilities for utilizing hardwoods, and an evergrowing demand for paper, all point to more and more Lake States timber being used for pulp. What we need to guard against, though, is increasing the consumption of softwoods. Already we have enough mill capacity to utilize this kind of timber.

The use of logs and bolts for veneer has dropped somewhat in the last two years. To a large degree this downward trend reflects the growing scarcity of high-grade logs in all species, the stiff competition for logs from other forest industries, and the lack of yellow birch, the preferred veneer species. Plant capacity is sufficient to utilize the available timber and it is quite likely that imports of veneer logs from other areas will be needed. Unless the veneer market becomes much tighter, thus permitting the purchase of lower grade logs, the extension of procurement over a wider area and the diversion of logs from sawmills to veneer mills, it is unlikely that veneer log production will reach much above 100 million board feet for some years.

So much for trends in our major forest industries. To sum up, we can say with some assurance that there is ample plant capacity in our forest industries to meet probable demands, and there are no particularly disturbing production trends in sight.

It is not enough though, as you well know, to have industrial capacity; we must have the timber to go along with it. And to keep industry productive and profitable, the timber supply must be continuous, readily available, and of good quality. The latest estimate of the timber supply in the Lake States shows that there are some 40 billion board feet of standing timber. This is a lot of timber but when we put it on a per-acre basis it is rather small - an average of 5 M board feet in saw-timber stands and only 800 board feet for all stands. But just total volume and volume per acre do not give us a very good size-up of where we are or what the future holds for industry.

This past year the Lake States Forest Experiment Station published a comprehensive summary of the forest situation. Let me summarize the most significant findings for you.

First: Here in the Lake States only about 5 percent of the original saw-timber stand remains. From now on the logging industry will be dependent upon second-growth timber, mostly of small size and running heavily to hardwoods, especially aspen. We will have much less pine in our second-growth forests than we did in the original.

Second: The annual timber cut now is closely in balance with the growth. But this is no cause for complacency. Generally speaking, cutting is concentrated too heavily on the more accessible areas and consists too largely of softwoods. In other words, if we are to get the maximum timber yields in the future, cutting must reach back into the more remote areas and greater emphasis must be placed on utilizing hardwoods instead of softwoods.

Third: A most serious situation is the deficit in growth of saw timber. Currently this deficit amounts to 1/4 billion board feet. The volume of trees of sawlog size has been declining in quantity and quality for several decades. In some places premature cutting of trees and clear cutting are practiced to the detriment of the region's forests.

Fourth: The long-run forestry possibilities in the Lake States are good. Our original timber is gone but new stands are coming on or being planted and if given adequate fire protection and if future cutting is done with due regard for young growth, there is every reason to believe that most existing industries can be supplied with timber.

Fifth: By following good management practices - selective cutting, thinning, planting, and encouraging natural reproduction - we can grow in 70 years at least twice as much wood and two and one-half times as much saw timber as at present.

These are for the most part encouraging findings, but you will note that they are contingent upon practicing good forestry - better forestry than has generally been the case in the past. Doing just as we have, though, will not attain a high level of forest productivity, and industrial production will inevitably suffer. Protection is not enough, and neither is selective cutting. As we go forward, emphasis must be on growing as many trees per acre as we can, growing timber on all forest land - not on just select areas - and favoring the more desirable species.

For more than 20 years we have been carrying on experiments in cutting methods here in Upper Michigan and in other sections of the Lake States. From such studies we now have a pretty good idea of what needs to be done to get maximum timber yields. To be specific, it is suggested that:

1. Cutting plans should provide for selective cutting of hardwoods, clear cutting of mature jack pine and aspen, and partial cutting of red pine, white pine, and spruce.
2. No timber should be cut prematurely. Maximum value growth doesn't come in most species until 60 years or so; cutting before this sacrifices timber yields and values.
3. Utilization should be improved. Although the Lake States region has made much progress in using low-quality timber, we need outlets for short logs, tops, and limbs. There is a lot of cellulose in this material and we ought to be making something of it.
4. Emphasis should be placed on finding new uses for certain little-used species. These include paper birch, elm, beech, and red maple.
5. In cutting for pulpwood, mine lagging, posts, and other small-size products, utilize thinnings to the fullest extent, rather than taking out trees which promise to make high-quality sawlogs.

As many of you are aware, our Station, in cooperation with industry and the states, recently has been making a reinventory of the timber supply in the Lake States. Although much remains to be done, we already have some idea of the changes which have taken place in the past 13 years. Those are a good indication of what can be expected in the near future. Over in Minnesota in the central pine area, we have found a 10-percent decrease in the area of softwood types; in western Upper Michigan, a 16-percent decrease. To a large extent, this decrease can be attributed to the heavy cutting for lumber and pulpwood in World War II. Little change was recorded in the aspen area, and large gains were indicated for the other hardwood types.

A favorable trend in both the Minnesota and Michigan areas was the "thickening up" of young stands. In the original survey 13 years ago, half the seedling and sapling stands and two-thirds of the pole stands were recorded as poorly stocked. In the resurvey, the proportion of poorly stocked dropped to 25 percent for seedlings and saplings, and 45 percent for pole stands in Minnesota. In Michigan the improvement was even greater.

A sharp decline in old-growth saw timber was particularly noticeable in Upper Michigan. The acreage of large saw timber dropped more than 50 percent, and the volume of saw timber on all lands declined 45 percent.

From this most recent study and other relevant facts, it is evident that the timber supply situation in the Lake States is complex and difficult to summarize. Briefly, though, we can say this: There are optimistic implications for the future; there are likely to be shortages of the more valuable species, grades, and sizes in the immediate future, but by intensifying our forestry efforts, much can be done to improve the supply picture.

By and large, loggers and foresters have the largest direct responsibility for keeping the timber resource productive. Processing plants can help out by developing new utilization methods. Equipment manufacturers have a part in the job too; their skills and tools can make it economically possible to handle low-grade material. In other words, all of us have a part in making the most of our timber resource so that this region and this country will have an ample supply of timber in the years ahead.